

## ECONOMIC COSTS OF NETWORK SERVICES (ECONS)

The calculations required to develop the investment and recurring incremental costs for the product or service under study are performed by a computer program called Economic Costs of Network Services (ECONS). At a point during its processing, ECONS accesses the Capital Cost (CAPCOST) program to perform capital costs calculations. CAPCOST is a program which determines capital costs using cost of money rates and federal and state tax regulations.

### Investment

The Total unit investment is derived by ECONS from material and labor related inputs.

If the material investment is circuit equipment, an inventory factor is applied to the projected material price to account for the material held for anticipated service requirements. The factor may be product specific or it may represent an account average value.

Sales tax expenses are calculated by applying a sales tax factor to the material price and the inventory loading. The last consideration related to material investment is supply expense. Supply expense is the cost incurred by Ameritech Wisconsin for delivery of material from the distribution center to company and customer locations. Supply expense is calculated in ECONS by applying a factor to the material cost and sales tax expense components derived above.

Labor related investment inputs consist of plant installation hours, engineering hours, plant labor rates, plant vehicle rates, engineering labor rates, and installation factors. For many products, work times for the specific installation function are obtained from engineering evaluations and special studies. Engineering activities include design and ordering of equipment configurations and job scheduling. Hourly labor rates include the basic operational salary, plus loadings for Social Security, Relief and Pension, and motor vehicles used by the motorized plant forces who perform installation activities. ECONS computes total labor costs by multiplying the product specific work time by the appropriate labor rate or by applying a factor to material cost. Estimates of labor rates were derived from special studies. ECONS will then capitalize the labor costs to reflect the appropriate accounting treatment. Capitalized labor costs are added to the material investment to obtain the total unit investment.

When the investment is obtained directly from other cost models such as ARPSM, LFAM, and CCSCIS, the investment is often multiplied by an annual cost factor derived from ECONS rather than run separately through the ECONS model. The annual cost factor captures the capital cost and operating expenses related to the investment under study.

When applicable, a power and floor space factor is applied to the material price to account for the investment related to power equipment, such as generators, and the investment related to the floor space required to support central office switching and/or circuit equipment.

### **CAPCOST Process: Overview**

At this point, ECONS passes the total unit investment to the CAPCOST program. Recurring capital costs (depreciation, cost of money, and income taxes) are a direct function of investment and are completely interrelated. Therefore, one comprehensive procedure, CAPCOST, has been mechanized to calculate all capital cost components. These capital costs are then passed back to the ECONS program. In addition to investment, other capital cost related parameters are required by CAPCOST so that the capital costs associated with an investment can be computed.

Among these parameters are:

1. Cost of money rate.
2. Income tax rate.
3. Economic lives.
4. Vintage.
5. Salvage.
6. Survivor curves.

### **Further Steps**

Next, the ECONS program will calculate the recurring operating expense of *ad valorem* taxes and maintenance. *Ad valorem* taxes are directly related to the level of investment on a factor basis; i.e., *ad valorem* taxes equal the unit investment times the factor. The *ad valorem* tax factor is a ratio of property taxes paid to investments for plant in-service.

Maintenance expenses consist of labor and material costs incurred in the upkeep of plant, rearrangements, changes of plant, and miscellaneous expenses,

such as shop repair. Labor costs incurred for upkeep activities are derived by multiplying hourly rates by work times. Annual maintenance work times and material are provided by the maintenance engineering group on a per product or service basis. Where specific maintenance information is not available, maintenance factors are multiplied by investment to compute annual maintenance costs. This is generally the case with outside plant and central office studies. These factors are derived by dividing average annual maintenance dollars by average annual investment on a plant account basis.

The total annual cost is the sum of all recurring cost components; i.e., economic depreciation, cost of money, income tax expense, *ad valorem* taxes, maintenance expense, power, and floor space costs. Where applicable, nonrecurring expenses may be identified as separate cost items.